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APPLICANT : NATL RES INST FOR METALS;

INVENTOR : YAMAZAKI MICHIO;

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TITLE : HIGH TEMPERATURE CORROSION RESISTANT MATERIAL

ABSTRACT : PURPOSE: To enhance the high temp. corrosion resistance of a material, which is obtained by providing a composite coating layer comprising Y-Al or Y-Cr to the surface of a heat resistant alloy, and to reduce the manufacturing cost thereof.

CONSTITUTION: Y is vapor deposited on the surface of a heat resistant alloy, for example, Ni-base or Co-base heat resistant alloy by a vacuum vapor deposition method, a chemical vapor deposition method or, especially pref., an ion plating method. In the next step, diffuse permeation treatment of Al or Cr is applied to the treated alloy. This diffuse permeation treatment may be applied, for example, by a method wherein the heat resistance alloy material after Y-vapor deposition is embedded in a powdery mixture consisting of an Al-metal powder or a Cr-metal powder, an Al_2O_3 powder and an NH_4Cl powder and subjected to heat treatment in a hydrogen stream.

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